



Air Quality Permitting Statement of Basis

November 2, 2007

Tier I Operating Permit No. T1-2007.0095

**Potlatch Forest Products Corporation, Lewiston Wood
Products Division, Lewiston**

Facility ID No. 069-00003

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DRAFT FOR PUBLIC COMMENT

Table of Contents

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE	3
1. PURPOSE	4
2. FACILITY DESCRIPTION.....	4
3. FACILITY/AREA CLASSIFICATION	4
4. APPLICATION SCOPE	5
5. SUMMARY OF EVENTS.....	5
6. PERMIT ANALYSIS	6
7. REGULATORY ANALYSIS	8
8. PERMIT CONDITIONS.....	12
9. INSIGNIFICANT ACTIVITIES.....	18
10. ALTERNATIVE OPERATING SCENARIOS	18
11. TRADING SCENARIOS.....	18
12. COMPLIANCE SCHEDULE	18
13. PERMIT REVIEW.....	19
14. ACID RAIN PERMIT.....	19
15. REGISTRATION FEES	19
16. RECOMMENDATION	19
APPENDIX A — AIRS DATA ENTRY FORM.....	20
APPENDIX B — EMISSION INVENTORY	22

Acronyms, Units, and Chemical Nomenclature

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring, 40 CFR 64
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
HAPs	Hazardous Air Pollutants
hp	horsepower
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
MACT	Maximum Available Control Technology
MMBtu	Million British thermal units
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM ₁₀	Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	Permit to Construct
PTE	Potential to Emit
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
SO ₂	sulfur dioxide
T/yr	Tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for this draft Tier I operating permit in accordance with IDAPA 58.01.01.362.

The Department of Environmental Quality (DEQ) has reviewed the information provided by Potlatch Forest Products Corporation, Lewiston Wood Products Division, regarding the operation of its facility located in Lewiston. This information was submitted based on the requirements to submit a Tier I operating permit application in accordance with IDAPA 58.01.01.313.03.

2. FACILITY DESCRIPTION

Potlatch Corporation operates the Lewiston Wood Products (formerly Clearwater) facility which manufactures dimensional kiln-dried lumber and trim board products. Wood waste in the forms of sawdust and chips are also produced as marketable products. Lewiston Wood Products is located in Lewiston, Idaho.

The facility is comprised of sawmill, lumber drying, surfacing, and Lewiston Cedar Products departments.

Raw logs are debarked and cut to desired lengths before entering the sawmill building. In the sawmill building the cut and debarked logs are cut to maximize the amount of lumber obtained from each log. The rough-cut green lumber is stacked before being dried in the kilns.

Four double-track kilns are indirectly-fired and operate on processed steam obtained from the adjacent Potlatch Pulp and Paper facility. Previously, there were 32 kilns, which have since been decommissioned, that were permitted. The permit to construct that was incorporated into this Title V permit has permit conditions regarding the transition from the old kilns to the replacement kilns. Because the old kilns are not longer at the site, this PTC permit condition was not incorporated into the Tier I operating permit.

Dried lumber is removed from the kilns and either stored temporarily or sent to the surfacing department where the lumber is trimmed by saws, planed, sorted, stacked, strapped, and stored before shipment as final dimensional lumber product.

Lewiston Cedar Products (also referred to as the Profiling and Specialties Departments) obtains dimensional lumber from Lewiston Wood Products' surfacing department or outside suppliers. The lumber is planed, finger-jointed and glued, planed again if needed, and sanded. Dimensional trim board is either strapped for shipment or is profiled to a desired shape, and prepared for shipment.

Wood chips, sawdust, planer dust, and sander dust from process equipment are conveyed to storage areas by either conveyor belt or pneumatic conveyance systems employing cyclones or baghouses.

3. FACILITY/AREA CLASSIFICATION

This facility is a major facility as defined by IDAPA 58.01.01.008.10 because it emits or has the potential to emit a regulated air pollutant(s) in amounts greater than or equal to major facility threshold(s) listed in Subsection 008.10. Refer to Section 6.2 of this document for a complete emissions inventory of the air pollutants emitted by this facility.

This facility is not a designated facility as defined by IDAPA 58.01.01.006.30.

This facility is not a major facility as defined by IDAPA 58.01.01.205 because it does not emit or have the potential to emit a regulated criteria air pollutant in amounts greater than or equal to 250 tons per year.

The Standard Industrial Classification (SIC) defining the facility is 2421, and the Aerometric Information Retrieval System (AIRS) facility classification is A.

The facility is located in Lewiston, which is classified as attainment/unclassifiable for all criteria pollutants (CO, NO_x, PM₁₀, SO₂, lead, and ozone). There is not a Class I area(s) within 10 kilometers (km) of the facility. This facility is located in Air Quality Control Region (AQCR) 62 and Universal Transverse Mercator (UTM) Zone 11.

4. APPLICATION SCOPE

- Renew Tier I operating permit
- Revise equipment identification numbers from "CW" to "LWP" to reflect change in facility name from Clearwater to Lewiston Wood Products
- Add new permit to construct permit conditions
- Add compliance assurance monitoring (CAM) for baghouses
- Revise insignificant sources list
- Evaluate regulating the emergency equipment in Section 5.0 of the existing permit as insignificant sources rather than as individually-regulated sources
- Remove the state-only requirements for formaldehyde and acetaldehyde from the Tier I operating permit
- Change name of responsible official prior to issuance of the final permit as the previous responsible official is no longer in that position (September 6, 2007 e-mail from Jim Miller of Potlatch)

5. SUMMARY OF EVENTS

June 8, 2007	DEQ receives application
August 3, 2007	DEQ determines application complete
August 16, 2007	DEQ issues facility draft permit
September 6, 2007	DEQ receives comments from facility

5.1 *Permitting History*

August 22, 1984	Tier II Permit #1140-0001, issued August 22, 1984
December 10, 2002	Tier I Permit, AIRS #069-00003, issued December 10, 2002
July 18, 2003	Tier I #T1-030203, issued July 18, 2003
October 31, 2003	Off-permit change, issued October 31, 2003
August 16, 2005	PTC #P-050200, issued August 16, 2005
August 18, 2006	Tier I #T1-060206, issued August 18, 2006
October 17, 2006	PTC #P-060205, issued October 17, 2006

6. PERMIT ANALYSIS

6.1 Basis of Analysis

The following documents were relied upon in preparing this memorandum and the Tier I operating permit:

- Off-permit change, issued October 31, 2003
- PTC #P-050200, issued August 16, 2005
- PTC #P-060205, issued October 17, 2006
- Tier I #T1-060206, issued August 18, 2006
- Tier I Operating Permit application received June 8, 2007
- Additional information and revisions to the Tier I operating permit application received in July 2007.
- Compliance certification received June 8, 2007
- Guidance developed by the U.S. Environmental Protection Agency (EPA) and DEQ

6.2 Emissions Description and Emissions Inventory

The detailed emission inventory is included as Appendix B. The emission factors for the fire water pump engines have been updated since the Appendix B emission inventory was written because it was determined that the engines were 220 horsepower (hp) and not 170 hp.

Uncontrolled Potential to Emit

The uncontrolled potential emissions for the processes controlled by baghouses are estimated but not calculated because an exact estimate is not required for applicability purposes for Title V major source threshold or CAM. Baghouses are usually more than 99% efficient for PM₁₀.

Table 6.1 Uncontrolled Potential to Emit for Point Sources

Source	PM ₁₀	SO ₂	NO _x	VOC	CO
Description	T/yr	T/yr	T/yr	T/yr	T/yr
Cyclone CY-1	0.14	---	---	---	---
Cyclone CY-2	0.03	---	---	---	---
Cyclone CY-3	0.06	---	---	---	---
Cyclone CY-4	0.35	---	---	---	---
Cyclone CY-6	0.21	---	---	---	---
Cyclone CY-18	0.02	---	---	---	---
Cyclone CY-25	0.64	---	---	---	---
Cyclone CY-26	0.02	---	---	---	---
Cyclone CY-27A	0.07	---	---	---	---
Cyclone CY-27B	0.07	---	---	---	---
Cyclone CY-FH	1.75	---	---	---	---
To Baghouse BH-1	>100	---	---	---	---
To Baghouse BH-2	>100	---	---	---	---
To Baghouse BH-3	>100	---	---	---	---
To Baghouse BH-4	>100	---	---	---	---
To Baghouse BH-5	>100	---	---	---	---

To Baghouse BH-6	>100	---	---	---	---
To Baghouse BH-7	>100	---	---	---	---
Edge & FJ glue	---	---	---	3.36	---
Kiln vents	6.64	---	---	107.06	---
Engine IC-5	0.07	0.06	0.97	0.08	.21
Engines IC-1 through 4 (estimates updated since original application)	0.48	0.45	6.82	0.54	1.47
Propane emergency generator, ME-49	0.01	0.001	5.1	0.15	0.70
Diesel emergency generator, ME-50	0.13	0.124	1.87	0.15	0.40
Propane heaters, ME-51 and ME-52 (18 total)	0.11	0.01	3.72	0.07	0.50
Natural gas generator ME- 57	0.0017	0.0001	0.70	0.02	0.10
Total point source	>100	0.6451	19.18	110.89	3.38

Controlled Potential to Emit

Emissions from the processes using baghouses are reduced. The emission estimates from the baghouses were estimated using the vendor-supplied emission rate of 0.03 grains per cubic foot and the airflow from each baghouse. All other emission estimates were based on the throughput limit, where applicable, or AP-42 factors and 8,760 hours per year of operation.

Table 6.1 Controlled Potential to Emit for Point Sources

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Cyclone CY-6	0.21	---	---	---	---
Cyclone CY-18	0.02	---	---	---	---
Cyclone CY-25	0.64	---	---	---	---
Cyclone CY-26	0.02	---	---	---	---
Cyclone CY-27A	0.07	---	---	---	---
Cyclone CY-27B	0.07	---	---	---	---
Cyclone CY-FH	1.75	---	---	---	---
Baghouse BH-1	4.05	---	---	---	---
Baghouse BH-2	4.28	---	---	---	---
Baghouse BH-3	4.62	---	---	---	---
Baghouse BH-4	5.07	---	---	---	---
Baghouse BH-5	4.84	---	---	---	---
Baghouse BH-6	3.94	---	---	---	---
Baghouse BH-7	3.72	---	---	---	---
Edge & FJ glue	---	---	---	3.36	---
Kiln vents	6.64	---	---	107.06	---
Engine IC-5	0.07	0.06	0.97	0.08	.21
Engines IC-1 through 4 (estimates updated since	0.48	0.45	6.82	0.54	1.47

original application)					
Propane emergency generator, ME-49	0.01	0.001	5.1	0.15	0.70
Diesel emergency generator, ME-50	0.13	0.124	1.87	0.15	0.40
Propane heaters, ME-51 and ME-52 (18 total)	0.11	0.01	3.72	0.07	0.50
Natural gas generator ME-57	0.0017	0.0001	0.70	0.02	0.10
Total point source	41.3	0.65	19.2	110.9	3.38

Allowable Emissions

There are no specific pound-per-hour or ton-per-year limits in the permit. The limits are 20% opacity and the process weight rate limit in which the limit varies depending on the process weight. Otherwise, the allowable emissions are the same as the controlled emission estimates.

7. REGULATORY ANALYSIS

7.1 IDAPA 58.01.01.313.03 – Renewals of Tier I Operating Permits

This permitting action is required to renew the facility's current Tier I operating permit. The application was submitted on June 8, 2007, which is greater than the required six months prior to the expiration date of the permit (December 10, 2007).

7.2 New Source Performance Standards (NSPS) – 40 CFR 60

Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

None of the current sources at LWP are subject to this subpart. The facility owns four stationary compression ignition (CI) internal combustion engines (ICE). The CI ICE units have been rebuilt. Three of the four were rebuilt prior to July 11, 2005 (the regulatory applicability date for Subpart IIII). The fourth was rebuilt after that date, so an analysis is done to determine applicability.

From an e-mail from Geomatrix, the facility's consultant, on August 2, 2007, the unit is a Detroit Diesel Corp. (DDC) engine model 6-71, purchased in 1964, which can be made equivalent to newer DDC model 6-71N by installing new injectors and associated electronics. This is what was done with the four CI ICE units at the facility. Originally, Potlatch was under the impression that the 6-71 was 170 hp, but that is not correct. The 6-71 and the 6-71N are both rated at 220 hp.

In accordance with 40 CFR 60.4200(a)(3), this subpart applies to facilities that modify or reconstruct their stationary CI ICE after July 11, 2005. 40 CFR 60.14(a) defines modification, in part, as "*any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant...*," with an exception for "*Maintenance, repair, and replacement which the Administrator determines to be routine for a source category.*"

The rebuilding of the engine did not increase the horsepower rating. It appears to be routine maintenance, repair, and replacement.

Reconstruction is defined in 40 CFR 60.15 as *“the replacement of components of an existing facility to such an extent that: (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and (2) It is technologically and economically feasible to meet the applicable standards set forth in this part.”*

Geomatrix sent a copy of the repair order for the engine, which was \$5,179.48. A quote for a new engine was also sent, which was \$12,300.00. The repair was less than 50% of the cost of a replacement engine. Therefore, the first part of the definition of reconstruction was not met, and both parts of the definition must be met in order for the repair to constitute reconstruction.

Based on these findings, the CI ICE unit that was rebuilt after the July 11, 2005 date is not subject to Subpart IIII.

7.3 Compliance Assurance Monitoring (CAM) – 40 CFR 64

CAM applies to an emission unit with potential pre-control device emissions greater than 100% of the major source threshold for a regulated air pollutant and that uses a control device to achieve compliance with an applicable requirement for the regulated air pollutant.

The control equipment identified at the facility are baghouses. The cyclones are process equipment and not considered control equipment.

Cyclone Applicability Determination

The cyclones were determined to be process equipment, and not control equipment, as follows:

In CAM definitions, 40 CFR 64.1, *““Control device” means equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere. The types of equipment that may commonly be used as control devices include, but are not limited to, fabric filters, mechanical collectors, electrostatic precipitators, inertial separators, afterburners, thermal or catalytic incinerators, adsorption devices (such as carbon beds), condensers, scrubbers (such as wet collection and gas absorption devices), selective catalytic or non-catalytic reduction systems, flue gas recirculation systems, spray dryers, spray towers, mist eliminators, acid plants, sulfur recovery plants, injection systems (such as water, steam, ammonia, sorbent or limestone injection), and combustion devices independent of the particular process being conducted at an emissions unit (e.g., the destruction of emissions achieved by venting process emission streams to flares, boilers or process heaters). For purposes of this part, a control device does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics. If an applicable requirement establishes that particular equipment which otherwise meets this definition of a control device does not constitute a control device as applied to a particular pollutant-specific emissions unit, then that definition shall be binding for purposes of this part.”*

This definition applies to control devices, such as inertial separators (cyclones), other than inherent process equipment, that are used to removed air pollutants.

Inherent process equipment is defined as follows:

“Equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of this part, inherent process equipment is not considered a control device.”

The facility’s consultant wrote, in an e-mail dated 7/18/07, the following explanation of use of the cyclones:

At LWP, larger cyclones are used to transfer wood residuals (sawdust, shavings, bark, etc), with exhaust air venting directly to atmosphere. These cyclones were installed with the primary purpose of moving material; similar equipment may be found at virtually any sawmill in the country, regardless of local air pollution requirements. These cyclones (CY-1, 2, 3, 4, and 6 at Specialties; CY-18, 25 at Surfacing; CY-26, 27A, 27B at the sawmill; and CY-FH at the fuel hog) are clearly inherent process equipment, as defined in 64.2 (excerpted above). Consequently, a CAM plan is not required for them.

LWP also uses cyclones used to collect and dispose of metal files in the saw filing room. These cyclones are very small, and are appropriately listed as insignificant emission units in Appendix D of the Tier I renewal application.

In addition, a letter from the EPA, dated Nov. 27, 2005, identified three findings that should be considered in making a case-by-case judgment as to whether certain devices or practices should be treated as pollution controls or as inherent to the process:

1. Is the primary purpose of the equipment to control air pollution?
2. Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment?
3. Would the equipment be installed if no air quality regulations are in place?

The facility’s consultant addressed Items No. 1 and No. 3 in the 7/18/07 e-mail, and addressed Item No. 2 in a 7/24/07 e-mail as follows:

“Although the primary product is lumber, the sawdust, bark, shavings, chips, and trimmings (which I refer to as wood residuals) have value and may be sold. For example, bark may be sold for gardens, chips to pulp mills, shavings for animal bedding – and all of it can be sold for hog fuel. Consequently, I think cyclones may be considered process equipment that is recovering a product, even if it may not be the primary product. Eventually, the recovery of this secondary product pays for the cyclone and pneumatic blower system, but I don’t know the economics.”

Based on this information, it has been determined that the cyclones are necessary for the proper functioning of the process, the cyclones are operated primarily for purposes other than compliance with air pollution regulations, and the recovered secondary product from the cyclones can be sold to recover the cost of the cyclone. The cyclones have been determined to be inherent process equipment and are therefore not subject to CAM.

Baghouse Applicability Determination

CAM applicability for the baghouses is determined as follows:

- The facility is subject to Title V permitting requirements
- The process weight rate limits (applicable requirements) which apply to the units which use the baghouses are not an emission limitation or standard that is exempt in accordance with 40 CFR 64.2(b).
- The baghouses are used to control particulate emissions from various wood processing operations at the facility. The baghouses are required to be used to achieve compliance with the process weight rate rule, IDAPA 58.01.01.700.
- For each process that is controlled by a baghouse, the process emissions of PM (a surrogate for PM₁₀) are estimated to be greater than 100 tons per year (the major source threshold of PM₁₀, the applicable regulated air pollutant) without the baghouse.

Baghouse CAM Permit Conditions

Based on the CAM plan in the application and on EPA guidance for CAM for fabric filters, permit conditions were written establishing the following:

- Baghouses are required to be used to control PM emissions from the associated processes. (40 CFR 64.6(b))
- The definition of an exceedance and an excursion were written, with the required action if an exceedance or excursion is detected.
- The requirement to monitor visible emissions (the indicator of control performance) once daily, using see/no see observations, and record the results.
- A requirement to submit reports in accordance with 40 CFR 64.9 and Permit Condition 2.12.

7.4 National Emission Standards for Hazardous Air Pollutants (NESHAPS) – 40 CFR Parts 61 & 63

The plywood and composite wood MACT standards, 40 CFR 63 Subpart DDDD, applies to this facility. In January 2005, Potlatch submitted to EPA and DEQ a completed initial notification form in accordance with 40 CFR 63.9 and as required by 40 CFR 63.2280(b). Shortly thereafter, Potlatch applied for and obtained PTC No. P-050200 to replace the old lumber kilns with new kilns. A permit condition in that PTC specifies that initial notification must be done for the new kilns. This term is obsolete and has been satisfied as the PTC updated the information provided in the initial January 2005 notification.

On June 19, 2007, the D.C. Circuit Court of Appeals vacated and partially remanded a portion of EPA's Maximum Achievable Technology Standards (MACT) for the Plywood and Composite Wood Products source category. Only the low risk option and the automatic compliance extension to October 1, 2008 were vacated. The initial notification requirements still apply and have been satisfied.

8. PERMIT CONDITIONS

This section describes only the changes made to the permit as a result of this permitting action. Existing permit conditions are identified as “Existing Permit Conditions”, and revised permit conditions are identified as “Revised Permit Conditions.”

General: All identification numbers that started with “CW” have been changed to “LWP.”

Facility-Wide Conditions

- 8.1 The facility-wide condition, Permit Condition 2.8, cannot be changed to require a minimum of 24 observations (as compared to the existing required minimum of 30 observations) for the visible emissions evaluation because the state’s EPA-approved SIP requires a minimum of 30 observations when conducting a Method 9 opacity test.
- 8.2 The facility-wide condition regarding 40 CFR 63 Subpart DDDD remains in the permit although the MACT has been partially vacated and remanded (June 19, 2007, the D.C. Circuit Court of Appeals). Most of the MACT remains in effect. The permit condition requires compliance with the MACT as applicable to the facility. The phrase in the permit condition requiring compliance “upon promulgation” was removed because the MACT has been promulgated.

Emissions Unit 1 – Lumber Drying Kilns

8.3 **Lumber Drying Kilns**

The lumber drying kilns process green rough cut lumber of various wood species and dimensions by reducing the moisture content in the lumber. Process steam is supplied to Lewiston Wood Products by the Potlatch Forest Products Corporation, Idaho Pulp and Paper Division. The steam is supplied to heating coils within the kilns which transfer heat to the stacked lumber to drive off the desired amount of moisture. Fans inside the kilns circulate the heated air inside the kilns, and vents in the roof of each kiln are opened and closed to maintain the desired conditions within the kiln.

8.4 **Revised Permit Condition 3.1**

The process weight rate limit for sources operating prior to October 1, 1979 applied to the original kilns, which have been removed and replaced by new kilns by PTC No. P-050200, issued August 16, 2005. Therefore, this permit condition has been revised to the process weight rate limit for sources operating on or after October 1, 1979.

8.5 **Existing Permit Condition 3.2**

The existing permit condition limits opacity to 20%.

8.6 **Replaced by Permit Condition 2.7**

This requirement was moved to the facility-wide section of the permit to avoid redundancy.

8.7 **Existing Permit Condition 3.3**

The visible emissions evaluation is monthly, which can be reduced to quarterly after four consecutive compliant readings, which reverts to monthly if a quarterly reading exceeds the limit.

8.8 **Revised Permit Condition**

The facility-wide visible emissions requirement is monthly, so no advantage is gained by changing it to quarterly because monthly readings are still required by the facility-wide visible emissions requirement. Therefore, Permit Condition 3.3 was removed as the requirement is already covered by the facility-wide permit condition.

8.9 **Permit Conditions Incorporated from PTC No. P-050200**

All permit conditions were incorporated into this Tier I from PTC No. P-050200 except the plywood MACT initial notification requirement, as discussed in Section 7.4 of this SOB, and the toxic air pollutant limits because these limits are state-only requirements and the permit application requested to remove these state-only requirements. The throughput and wood species permit conditions were incorporated into the Tier I operating permit because these were developed to limit PM₁₀ and VOC emissions, not only TAP emissions. The PTC permit condition requiring that the 32 existing kilns not be operated concurrently with the new kilns for more than 180 days was not incorporated into the Tier I operating permit because the old kilns have been demolished and removed. The recordkeeping requirement was revised from two years to five years to match the Tier I recordkeeping requirements.

***Emissions Unit 2 – Sawmill, Surfacing Department, Lewiston Cedar Products Process
Material Handling Equipment***

8.10 **Existing Tables 4.1 and 4.2**

Shows Cyclone 24 (CW-CY-24) for handling of the fines from the Brooks chipper.

8.11 **Revised Tables 4.1 and 4.2**

Shows that Cyclone 24 has been removed and the fines from the Brooks chipper now go to Baghouse No. 2 (LWP-BH-02).

8.12 **Existing Permit Condition 4.3**

The existing permit condition limits opacity to 20%.

8.13 **Replaced by Permit Condition 2.7**

This requirement was moved to the facility-wide section of the permit to avoid redundancy.

8.14 **New Permit Condition for CAM**

The existing permit does not contain a requirement to use the baghouses to control emissions. This requirement is needed for CAM because the baghouses are used to meet the applicable requirement (process weight rate).

4.4 CAM - Baghouse Use Required

The permittee shall use baghouses to control PM emissions from the associated processes according to Table 4.3.

Table 4.3 Processes Controlled by Baghouses

<i>Process(es)</i>	<i>Baghouse(s)</i>
--------------------	--------------------

<i>Fines from Brooks chipper</i>	<i>Baghouse No. 2</i>
<i>Dropout fines collected from Brooks chipper, sawdust collected from LWP-CY-18, planer shavings from No. 2 planer, No. 3 planer, and No. 4 planer, and dust from Nos. 2, 3, and 4 Trimmers</i>	<i>Baghouses No. 1 through No. 3</i>
<i>Shavings, dust, and trimmer dust from No. 1 resaw, No. 2 resaw, No. 3 resaw, No. 8 resaw, No. 4 profiler, No. 5 profiler, No. 7 profiler, No. 13 planer, and sanders associated with profilers.</i>	<i>Baghouses No. 4 through No. 7</i>

[40 CFR 64.6(b)]

Potlatch has installed spark detectors to minimize the possibility of a fire in the baghouses. If a spark is detected, air flow is automatically diverted from the baghouse to an uncontrolled vent. This diversion lasts a few seconds. The facility stated that this is an essential safety practice which is common in the industry.

If emissions from this safety practice result in excess emissions as defined in IDAPA 58.01.01.006.38, then parts of the provisions in Permit Condition 2.9 and IDAPA 58.01.01.130-136 are applicable.

8.15 **New Permit Condition for CAM**

CAM requires that exceedance and excursion be defined in the permit. CAM also requires certain actions if there is an exceedance or excursion. The actions required are taken from the regulation. Further action (re-assessing the indicator range and/or preparing a quality improvement plan) may be required for excessive exceedances or excursions. These regulations were not written into the permit, but may be invoked under certain circumstances.

4.5 CAM – Exceedance and Excursion

4.5.1 *A CAM exceedance shall be defined as a tested emission rate that exceeds the PM emission rate limit calculated using the applicable process weight rate equation and the recorded process weight for the duration of the test.*

[40 CFR 64.6(c)(2)]

4.5.2 *A CAM excursion shall be defined as the presence of visible emissions that are detected during the see/no see observation conducted in accordance with Permit Condition 4.6 of any baghouse stack identified in Table 4.3.*

[40 CFR 64.6(c)(2)]

4.5.3 *In accordance with 40 CFR 64.7(d)(1), upon detecting an excursion or exceedance, the permittee shall restore operation of the processes identified in Table 4.3, including the corresponding baghouse and capture system, to the normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.*

[40 CFR 64.7(d)(1)]

8.16 Removed Permit Condition

The following permit condition was removed because it is similar to the facility-wide Permit Condition 2.8:

Visible Emissions Monitoring

To demonstrate compliance with Permit Conditions 4.1, 4.2, and 2.7, the permittee shall conduct monthly one-minute observations of each affected emissions point or source using EPA Method 22 (in 40 CFR Part 60, Appendix A). If visible particulate matter emissions are observed for any emissions point, a six-minute observation using EPA Method 9 shall be conducted. The visible emissions evaluation shall be performed during daylight hours under normal operating conditions. The results of each evaluation shall be recorded and maintained as required in Permit Condition 2.11. If four consecutive monthly Method 22 observations indicate that no visible particulate matter emissions are observed from any of the four observations or if four consecutive monthly six-minute observations using Method 9 indicate that opacity is below 20% for each of the four six-minute observations, or any combination of four consecutive monthly Method 22 or Method 9 observations, or any combination four consecutive monthly observations demonstrates compliance, the frequency of observations decreases to once per quarter. If any quarterly Method 9 observation indicates opacity is greater than 20%, the observation frequency reverts to monthly.

8.17 New Permit Condition for CAM

CAM requires that monitoring of the indicator occur a minimum of once per day. EPA's example compliance assurance plan for fabric filters for PM control uses once per day monitoring of visible emissions, using six-minute EPA Reference Method 22-like procedures, with readings made at the emission point. The indicator range in the example is "no visible emissions." In a CAM course provided by EPA at DEQ, it was emphasized that pressure drop is not an indicator of control performance for baghouses. Therefore, pressure drop was not used in this permit as an indicator.

The CAM plan in the permit application also proposed to use Method 22 monitoring, but on a monthly basis instead of a daily basis. In a subsequent e-mail from the facility's consultant, it was requested that see/no see monitoring be done instead of Method 22. 40 CFR 64.3(b)(4) establishes the monitoring frequency requirements, as follows:

"4) Specifications for the frequency of conducting the monitoring, the data collection procedures that will be used (e.g., computerized data acquisition and handling, alarm sensor, or manual log entries based on gauge readings), and, if applicable, the period over which discrete data points will be averaged for the purpose of determining whether an excursion or exceedance has occurred.

(i) At a minimum, the owner or operator shall design the period over which data are obtained and, if applicable, averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). Such intervals shall be commensurate with the time period over which a change in control device performance that would require actions by owner or operator to return operations within normal ranges or designated conditions is likely to be observed.

A change in control performance for a baghouse may be noticed on the same day that a malfunction occurs or it may take several days or weeks before the baghouse performance deteriorates to the extent that an excursion or exceedance is observed. This section of the rule allows flexibility in determining a time interval between monitoring assessments. The permit application has requested monthly visible emissions monitoring, decreasing to quarterly if no visible emissions are observed.

Section (4)(iii) of the CAM rule requires a minimum of once-daily data collection (see discussion following Section (4)(ii)).

(ii) For all pollutant-specific emissions units with the potential to emit, calculated including the effect of control devices, the applicable regulated air pollutant in an amount equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source, for each parameter monitored, the owner or operator shall collect four or more data values equally spaced over each hour and average the values, as applicable, over the applicable averaging period as determined in accordance with paragraph (b)(4)(i) of this section. The permitting authority may approve a reduced data collection frequency, if appropriate, based on information presented by the owner or operator concerning the data collection mechanisms available for a particular parameter for the particular pollutant-specific emissions unit (e.g., integrated raw material or fuel analysis data, noninstrumental measurement of waste feed rate or visible emissions, use of a portable analyzer or an alarm sensor).

(iii) For other pollutant-specific emissions units, the frequency of data collection may be less than the frequency specified in paragraph (b)(4)(ii) of this section but the monitoring shall include some data collection at least once per 24-hour period (e.g., a daily inspection of a carbon adsorber operation in conjunction with a weekly or monthly check of emissions with a portable analyzer)."

This section requires data collection at least once per 24-hour period. The EPA example for CAM for baghouses uses a once-daily six-minute Method 22-like observation. Section (4)(iii) allows for some data collection at least once per 24-hour period in conjunction with a more thorough monitoring measurement weekly or monthly.

DEQ has determined that it is a reasonable assurance of compliance to require a see/no see observation on a daily basis.

4.6 CAM – Monitoring and Recordkeeping

Once per day, the permittee shall monitor and record the presence or absence of visible emissions using a see/no see observation for each baghouse stack listed in Table 4.3. Records shall be maintained in accordance with Permit Condition 2.11 and 40 CFR 64.9.

[40 CFR 64.6(c)(1)(ii) and (iii)]

8.18 New Permit Condition for CAM

CAM reporting is required as specified in the permit and in 40 CFR 64.9.

4.7 CAM - Reporting

The permittee shall submit required reports in accordance with Permit Condition 2.12 and 40 CFR 64.9.

[40 CFR 64.6(c)(3) and 64.9]

Emissions Unit 3 – Fire Pump Engines And Emergency Electrical Generator Engines

8.19 Existing Permit Conditions

The fire pump and emergency electrical generator engines were permitted specifically in the existing Tier I operating permit. The permit conditions that apply to them are in the facility-wide permit conditions. Therefore, it is not necessary to have a specific permit section for these units.

The Tier I operating permit application requested that the units be listed in the insignificant emissions unit section. The units have been determined to be rated at between 200 to 220 hp each. A July 28, 2007 e-mail from Geomatrix showed a conversion of 42.407 BTU per hp-min to result in a Btu use of 560,000 Btu/hr. This is the Btu output, which, because of engine efficiency, is less than the actual Btu use rate. The e-mail did not include the actual efficiency rating of the units, so a standard 30% efficiency was used to determine applicability for IDAPA 58.01.01.317.01(b)(7), which states, “Combustion source, of less than one million (1,000,000) Btu/hr, if using kerosene, No. 1 or No. 2 fuel oil.” The Btu/hr limit applies to the fuel use rate, not the output, of the source. Based on this, the Btu use rate for each unit would be approximately 1.87 MMBtu/hr, which exceeds the insignificant emission unit level.

These sources were listed in Section 1, regulated sources. There are some requirements in the facility-wide section and the general provisions that apply to these sources, but they no longer have their own specific section in the permit.

Emissions Unit 4 – Fuel Hog

8.20 Existing Permit Condition

This permit condition was incorporated from PTC No. P-060205. Because there is already a permit condition with the same limit in the facility-wide section of the Tier I operating permit, the PTC permit condition does not need to be restated in the fuel hog section.

Visible Emissions

The permittee shall not discharge any air pollutant to the atmosphere from any point of emissions for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined by procedures contained in IDAPA 58.01.01.625. These provisions shall not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas are the only reason(s) for the failure of the emissions to comply with the requirements of this condition.

[PTC No. P-060205, IDAPA 58.01.01.650-651, 5/1/94]

8.21 Existing Permit Condition

As was done for the previous permit condition, the monitoring provision in the PTC required quarterly observations. The facility-wide monitoring requirement is monthly, which is more frequent and duplicates the quarterly monitoring PTC requirement, so the PTC requirement was not restated in the fuel hog section of the permit.

Visible Emissions Observations

To demonstrate compliance with Permit Conditions 6.1 and 6.2, the permittee shall conduct a quarterly inspection consisting of a see/no see evaluation of visible emissions from the Fuel Hog Cyclone stack during daylight hours and under normal operating conditions. If any visible emissions are present from

the stack, the permittee shall take appropriate corrective action as expeditiously as practicable, or perform a Method 9 visible emissions evaluation. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective actions and report the exceedance in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain a record of the results of each visible emissions inspection. The record shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken. [PTC No. P-060205, IDAPA 58.01.01.211, 5/1/94]

9. INSIGNIFICANT ACTIVITIES

The following changes and corrections were made to the list:

- The 600-gallon diesel storage tank has been replaced with a 500-gallon double-walled tank
- The natural gas engine ME-49 has been converted to propane.
- The propane-fired emergency generator ME-50 has been replaced with a 90 kW diesel-fired emergency generator.
- The propane-fired heater list was expanded to include 17 greenhouse heaters
- Four 100 gallon oil tanks were increased to eight oil tanks totaling 2,000 gallons
- The propane engine in the previous permit is an emergency generator
- The propane filling station is no longer listed
- A 18,000 gallon propane storage tank for greenhouse was added
- Four 250 gallon diesel storage tanks for fire pumps were added
- The propane engine in the greenhouse was removed from the list
- A propane ceiling heater for the greenhouse was added

10. ALTERNATIVE OPERATING SCENARIOS

The facility did not request any alternative operating scenarios

11. TRADING SCENARIOS

The facility did not request any trading scenarios.

12. COMPLIANCE SCHEDULE

12.1 Compliance Certification

Potlatch Forest Products Corporation is required to periodically certify compliance in accordance with General Provision 21. The facility shall submit an annual compliance certification for each emissions unit to DEQ and EPA, in accordance with IDAPA 58.01.01.322.11. The compliance certification report shall address the compliance status of each emissions unit with the terms and conditions of this permit.

13. PERMIT REVIEW

13.1 Regional Review of Draft Permit

DEQ provided the draft permit to its Lewiston regional office on August 16, 2007. The regional office did not have any comments regarding the draft permit.

13.2 Facility Review of Draft Permit

DEQ provided the draft permit to Potlatch Forest Products Corporation in Lewiston for its review on August 16, 2007. The facility provided written comments on the draft permit on September 6, 2007.

13.3 Public Comment

DEQ is providing the draft permit for public comment. Washington, Oregon, the Nez Perce Indian Reservation, and the Coeur d'Alene Indian Reservation are within 50 miles of this Tier I Source and are affected states. As such, notification of the public comment period is being provided as required by IDAPA 58.01.01.364.

14. ACID RAIN PERMIT

This facility is not an affected facility as defined in 40 CFR 72 through 75; therefore, acid rain permit requirements do not apply.

15. REGISTRATION FEES

This facility is a major facility as defined by IDAPA 58.01.01.008.10; therefore, registration and registration fees in accordance with IDAPA 58.01.01.387 apply. The facility is in compliance with registration and registration fee requirements.

16. RECOMMENDATION

Based on the Tier I operating permit application and review of state rules and federal regulation, staff recommends that DEQ issue draft for public comment Tier I Operating Permit No. T1-2007.0095 to Potlatch Forest Products Corporation for its Lewiston Wood Products facility. This permit renews the facility's existing Tier I operating permit. The permit is being made available for public comment as required by IDAPA 58.01.01.364. The project does not involve PSD permitting requirements.

CZ/xx Permit No. T1-2007.0095

Appendix A – AIRS Data Entry Form

**Potlatch Forest Products Corporation
Lewiston**

Tier I Operating Permit No. T1- 2007.0095

Facility ID No. 069-00003

AIRS/AFS DATA ENTRY FORM

AIRS/AFS FACILITY-WIDE CLASSIFICATION DATA ENTRY FORM

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO ₂	B							U
NO _x	B							U
CO	B							U
PM ₁₀	SM							U
PT (Particulate)	SM							
VOC	A							U (ozone)
Total HAPs	A methanol				methanol			
			APPLICABLE SUBPART					
					DDDD			

- A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 ton-per-year (T/yr) threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.
- SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
- B = Actual and potential emissions below all applicable major source thresholds.
- C = Class is unknown.
- ND = Major source thresholds are not defined (e.g., radionuclides).
- NA = Not applicable as defined in IDAPA 58.01.01.579, constructed prior to baseline dates.

Appendix B – Emission Inventory

**Potlatch Forest Products Corporation
Lewiston**

Tier I Operating Permit No. T1- 2007.0095

Facility ID No. 069-00003

TABLE C-1. POINT EMISSION SOURCES

Source	Associated Building	Source Identification Number
Dry Kiln Vents (20 per each of 4 kilns)	Kilns	LWP-KV-1
Baghouse	Surfacing	LWP-BH-1
Baghouse	Surfacing	LWP-BH-2
Baghouse	Surfacing	LWP-BH-3
Baghouse	LCP	LWP-BH-4
Baghouse	LCP	LWP-BH-5
Baghouse	LCP	LWP-BH-6
Baghouse	LCP	LWP-BH-7
Cyclone	LCP	LWP-CY-1
Cyclone	LCP	LWP-CY-2
Cyclone	LCP	LWP-CY-3
Cyclone	LCP	LWP-CY-4
Cyclone	LCP	LWP-CY-6
Cyclone	Surfacing	LWP-CY-18
Cyclone	Surfacing	LWP-CY-25
Cyclone	Sawmill	LWP-CY-26
Cyclones (common stack)	Sawmill	LWP-CY-27 A & B
Cyclone	Fuel Hog	LWP-CY-FH
Emergency Firewater Pump Engine	-	LWP-IC-1
Emergency Firewater Pump Engine	-	LWP-IC-2
Emergency Firewater Pump Engine	-	LWP-IC-3
Emergency Firewater Pump Engine	-	LWP-IC-4
Greenhouse Emergency Generator Engine	Greenhouse	LWP-IC-5
Emergency Generator	Offices	LWP-MR-50

C-1

TABLE C-2. POTENTIAL EMISSION RATES FOR CRITERIA POLLUTANTS

Source/Pollutant	1999 Throughput	Potential Throughput	Units	Emission Factor	Units	Yearly Emiss. (Ton/yr)	See Note
BAGHOUSES AND CYCLONES							
CY-1, Specialties Gang Rip Cyc./PM10	153	354	Tons/yr	0.778	lb/ton	0.14	1
CY-2, Specialties Gang Rip Cyc./PM10	153	354	Tons/yr	0.164	lb/ton	0.03	1
CY-3, Specialties GRECON/PM10	334	773	Tons/yr	0.164	lb/ton	0.06	1
CY-4, Specialties NULOC/PM10	572	1,324	Tons/yr	0.522	lb/ton	0.35	1
CY-6, Specialties, CY-1 to CY- 4/PM10	1,115	2,582	Tons/yr	0.164	lb/ton	0.21	1
CY-18, Surfacing, #4 Splitted/PM10	23	53	Tons/yr	0.600	lb/ton	0.02	1
CY-25, Surfacing, Chipper, Chips/PM10	8,995	20,826	Tons/yr	0.062	lb/ton	0.64	1
CY-26, Sawmill, All Machine Ctra/PM10	128	296	Tons/yr	0.165	lb/ton	0.02	1 and 2
CY-27A, Sawmill, All Machine Ctra/PM10	81	188	Tons/yr	0.780	lb/ton	0.07	1 and 2
CY-27B, Sawmill, All Machine Ctra/PM10	81	188	Tons/yr	0.780	lb/ton	0.07	1
CY-FH, Fuel Hog/PM10		5,086	Tons/yr	0.685	lb/ton	1.75	12
BH-1, Surfacing/PM10		8760	hr/yr	0.926	lb/hr	4.05	3
BH-2, Surfacing/PM10		8760	hr/yr	0.977	lb/hr	4.28	3
BH-3, Surfacing/PM10		8760	hr/yr	1.054	lb/hr	4.62	3
BH-4, Profile/PM10		8760	hr/yr	1.157	lb/hr	5.07	3
BH-5, Profile/PM10		8760	hr/yr	1.106	lb/hr	4.84	3
BH-6, Profile/PM10		8760	hr/yr	0.900	lb/hr	3.94	3
BH-7, Profile/PM10		8760	hr/yr	0.848	lb/hr	3.72	3
GL-1, VOC's from Lewiston Cedar Products Edge&FJ glue VOCs							
		231,382	lb/yr	0.029	lb/lb glue	3.36	4
KILN VENTS, KV-1 PM10 (hemlock)							
		260,382	MBF/yr	0.051	lb/MBF	6.64	5
VOCs (fir/larch)							
		351,009	MBF/yr	0.61	lb/MBF	107.06	5
Engine IC-6, 125 hp Greenhouse Generator							
PM10		500	hr/yr	0.28	lb/hr	0.07	6
SOx		500	hr/yr	0.25	lb/hr	0.06	7
CO		500	hr/yr	0.84	lb/hr	0.21	7
NOx		500	hr/yr	3.88	lb/hr	0.97	7
VOCs		500	hr/yr	0.31	lb/hr	0.08	8
Engines IC-1 to IC-4, 170 hp Fire Pump Engines (Total for all four)							
PM10		500	hr/yr	0.37	lb/hr	0.37	6
SOx		500	hr/yr	0.35	lb/hr	0.35	7
CO		500	hr/yr	1.14	lb/hr	1.14	7
NOx		500	hr/yr	5.27	lb/hr	5.27	7
VOCs		500	hr/yr	0.42	lb/hr	0.42	8
Propane Emergency Generator ME-49, <8 MMBtu/hr							
PM10		500	hr/yr	0.05	lb/hr	0.01	15
SOx		500	hr/yr	2.94E-03	lb/hr	0.001	15
CO		500	hr/yr	2.785	lb/hr	0.70	15

C-2

Source/Pollutant	1999 Throughput	Potential Throughput	Units	Emission Factor	Units	Yearly Emiss. (Ton/yr)	See Note
NOx		500	hr/yr	20.4	lb/hr	5.10	15
VOCs		500	hr/yr	0.59	lb/hr	0.15	15
Diesel Emergency Generator ME-50, 90kW							
PM10		500	hr/yr	0.05	lb/hr	0.13	15
SOx		500	hr/yr	2.94E-03	lb/hr	0.124	15
CO		500	hr/yr	2.785	lb/hr	0.40	15
NOx		500	hr/yr	20.4	lb/hr	1.87	15
VOCs		500	hr/yr	0.59	lb/hr	0.15	15
Propane Heaters, ME-51 and ME-52, (Total for all 18)							
PM10		8,760	hr/yr	0.024	lb/hr	0.11	14
SOx		8,760	hr/yr	0.001	lb/hr	0.01	14
CO		8,760	hr/yr	0.115	lb/hr	0.50	14
NOx		8,760	hr/yr	0.849	lb/hr	3.72	14
VOCs		8,760	hr/yr	0.015	lb/hr	0.07	14
Natural Gas Generator ME-57, 200 kW							
PM10		500	hr/yr	0.01	lb/hr	1.70E-03	15
SOx		500	hr/yr	4.01E-04	lb/hr	1.00E-04	15
CO		500	hr/yr	0.38	lb/hr	0.10	15
NOx		500	hr/yr	2.78	lb/hr	0.70	15
VOCs		500	hr/yr	0.08	lb/hr	0.02	15
Vehicles, unpaved roads (pre-controlled)							
Log Trucks, Dirt Roads/PM10		12650.4	VMt/yr	7.27	lb/VMt	20.42	
Log Trucks, Gravel Road/PM10		5421.6	VMt/yr	4.75	lb/VMt	5.73	
Lumber Trucks (flatbed)/PM10		0	VMt/yr	0.00	lb/VMt	0.00	
956 Cat/PM10		1140	VMt/yr	1.40	lb/VMt	0.35	
930 Cat/PM10		720	VMt/yr	1.16	lb/VMt	0.19	
T-Bird Sorter/PM10		260	VMt/yr	1.94	lb/VMt	0.11	
229 Cat Sorter/PM10		260	VMt/yr	1.72	lb/VMt	0.10	
LeTourneau Loader/PM10		12960	VMt/yr	2.34	lb/VMt	6.74	
988 B Cat/PM10		12960	VMt/yr	2.18	lb/VMt	6.26	
980 C Cat/PM10		6060	VMt/yr	1.94	lb/VMt	2.62	
Barke Loader/PM10		260	VMt/yr	1.73	lb/VMt	0.10	
K.W. Water Tanker/PM10		8400	VMt/yr	1.85	lb/VMt	3.44	
International Dump Truck/PM10		15600	VMt/yr	1.23	lb/VMt	4.26	
						AP-42 reduction to account for dust suppression	75%
						Post-control subtotal	12.58
Vehicles, paved roads							
Flatbed trucks/PM10		2,284.1	VMt/yr	2.17	lb/VMt	2.48	
Conveyors and Piles							
PM10						2.16E-03	
						Total PM-10	58 T/yr
						Total SOx	0.4 T/yr
						Total CO	3 T/yr
						Total NOx	19 T/yr
						Total VOCs	108 T/yr

C-3

TABLE C-3. POTENTIAL EMISSION RATE FOR TAPS AND HAPS

Source/Pollutant	TAP/HAP?	Potential Throughput	Units	Emission Factor	Units	Yearly Emiss. (ton/yr)	See Note
GL-1, VOC's from Lewiston Cedar Products Edge&FJ glue							
Formaldehyde	TAP & HAP	231,302	lb/yr	0.0014	lb/lb adhesive	0.16	4
KILN VENTS, KV-1							
Acetaldehyde	TAP & HAP	351,009	MBF/yr	0.0078	lb/MBF	1.37	11
Formaldehyde	TAP & HAP	351,009	MBF/yr	0.001	lb/MBF	0.18	9
Methanol	TAP & HAP	351,009	MBF/yr	0.12	lb/MBF	21.06	9
Methyl ethyl ketone	TAP & HAP	351,009	MBF/yr	0.0013	lb/MBF	0.23	11
Phenol	TAP & HAP	351,009	MBF/yr	0.004	lb/MBF	0.70	10
Engine IC-6, 125 hp Greenhouse Generator							
1,3-Butadiene	TAP & HAP	500	hr/yr	1.24E-05	lb/hr	3.11E-06	13
Acenaphthene	HAP	500	hr/yr	4.52E-07	lb/hr	1.13E-07	13
Acenaphthylene	HAP	500	hr/yr	1.61E-09	lb/hr	4.02E-07	13
Acetaldehyde	TAP & HAP	500	hr/yr	2.44E-04	lb/hr	6.10E-05	13
Acrolein	TAP & HAP	500	hr/yr	2.04E-05	lb/hr	7.36E-06	13
Anthracene	HAP	500	hr/yr	5.95E-07	lb/hr	1.49E-07	13
Benzene	TAP & HAP	500	hr/yr	2.97E-04	lb/hr	7.42E-05	13
Benzo(a)anthracene	HAP	500	hr/yr	5.34E-07	lb/hr	1.34E-07	13
Benzo(a)pyrene	TAP & HAP	500	hr/yr	5.98E-08	lb/hr	1.49E-08	13
Benzo(b)fluoranthene	HAP	500	hr/yr	3.15E-08	lb/hr	7.88E-09	13
Benzo(k)fluoranthene	HAP	500	hr/yr	4.93E-08	lb/hr	1.23E-08	13
Benzo(g,h,i)perylene	HAP	500	hr/yr	1.56E-07	lb/hr	3.89E-08	13
Chrysene	HAP	500	hr/yr	1.12E-07	lb/hr	2.81E-08	13
Dibenzo(a,h)anthracene	HAP	500	hr/yr	1.85E-07	lb/hr	4.64E-08	13
Fluoranthene	HAP	500	hr/yr	2.42E-06	lb/hr	6.05E-07	13
Fluorene	HAP	500	hr/yr	9.29E-06	lb/hr	2.32E-06	13
Formaldehyde	TAP & HAP	500	hr/yr	3.76E-04	lb/hr	9.38E-05	13
Indeno(1,2,3-c,d)pyrene	HAP	500	hr/yr	1.19E-07	lb/hr	2.98E-08	13
Naphthalene	TAP & HAP	500	hr/yr	2.70E-05	lb/hr	6.74E-06	13
Phenanthrene	HAP	500	hr/yr	9.35E-06	lb/hr	2.34E-06	13
Pyrene	HAP	500	hr/yr	1.52E-06	lb/hr	3.80E-07	13
Toluene	TAP & HAP	500	hr/yr	1.30E-04	lb/hr	3.25E-05	13
Xylenes	TAP & HAP	500	hr/yr	9.06E-05	lb/hr	2.27E-05	13
Engines IC-1 to IC-4, 170 hp Fire Pump Engines (Total for all four)							
1,3-Butadiene	TAP & HAP	500	hr/yr	1.69E-05	lb/hr	1.69E-05	13
Acenaphthene	HAP	500	hr/yr	6.14E-07	lb/hr	6.14E-07	13
Acenaphthylene	HAP	500	hr/yr	2.19E-09	lb/hr	2.19E-09	13
Acetaldehyde	TAP & HAP	500	hr/yr	3.32E-04	lb/hr	3.32E-04	13
Acrolein	TAP & HAP	500	hr/yr	4.00E-05	lb/hr	4.00E-05	13
Anthracene	HAP	500	hr/yr	8.09E-07	lb/hr	8.09E-07	13
Benzene	TAP & HAP	500	hr/yr	4.04E-04	lb/hr	4.04E-04	13
Benzo(a)anthracene	HAP	500	hr/yr	7.27E-07	lb/hr	7.27E-07	13
Benzo(a)pyrene	TAP & HAP	500	hr/yr	8.13E-08	lb/hr	8.13E-08	13
Benzo(b)fluoranthene	HAP	500	hr/yr	4.29E-08	lb/hr	4.29E-08	13
Benzo(k)fluoranthene	HAP	500	hr/yr	6.70E-08	lb/hr	6.70E-08	13
Benzo(g,h,i)perylene	HAP	500	hr/yr	2.12E-07	lb/hr	2.12E-07	13

C-4

Source/Pollutant	TAP/HAP?	Potential Throughput	Units	Emission Factor	Units	Yearly Emiss. (ton/yr)	See Note
Chrysene	HAP	500	hr/yr	1.53E-07	lb/hr	1.53E-07	13
Dibenzo(a,h)anthracene	HAP	500	hr/yr	2.52E-07	lb/hr	2.52E-07	13
Fluoranthene	HAP	500	hr/yr	3.29E-06	lb/hr	3.29E-06	13
Fluorene	HAP	500	hr/yr	1.26E-06	lb/hr	1.26E-06	13
Formaldehyde	TAP & HAP	500	hr/yr	5.10E-04	lb/hr	5.10E-04	13
Indeno(1,2,3-c,d)pyrene	HAP	500	hr/yr	1.62E-07	lb/hr	1.62E-07	13
Naphthalene	TAP & HAP	500	hr/yr	3.67E-05	lb/hr	3.67E-05	13
Phenanthrene	HAP	500	hr/yr	1.27E-05	lb/hr	1.27E-05	13
Pyrene	HAP	500	hr/yr	2.07E-06	lb/hr	2.07E-06	13
Toluene	TAP & HAP	500	hr/yr	1.77E-04	lb/hr	1.77E-04	13
Xylenes	TAP & HAP	500	hr/yr	1.23E-04	lb/hr	1.23E-04	13
Engine ME-50, 90kW Emergency Generator							
1,3-Butadiene	TAP & HAP	500	hr/yr	1.20E-05	lb/hr	1.20E-05	5
Acenaphthene	HAP	500	hr/yr	4.36E-07	lb/hr	4.36E-07	5
Acenaphthylene	HAP	500	hr/yr	1.55E-06	lb/hr	1.55E-06	5
Acetaldehyde	TAP & HAP	500	hr/yr	2.36E-04	lb/hr	2.36E-04	5
Acrolein	TAP & HAP	500	hr/yr	2.84E-05	lb/hr	2.84E-05	5
Anthracene	HAP	500	hr/yr	5.74E-07	lb/hr	5.74E-07	5
Benzene	TAP & HAP	500	hr/yr	2.87E-04	lb/hr	2.87E-04	5
Benzo(a)anthracene	HAP	500	hr/yr	5.16E-07	lb/hr	5.16E-07	5
Benzo(a)pyrene	TAP & HAP	500	hr/yr	5.77E-08	lb/hr	5.77E-08	5
Benzo(b)fluoranthene	HAP	500	hr/yr	3.04E-08	lb/hr	3.04E-08	5
Benzo(k)fluoranthene	HAP	500	hr/yr	4.76E-08	lb/hr	4.76E-08	5
Benzo(g,h,i)perylene	HAP	500	hr/yr	1.50E-07	lb/hr	1.50E-07	5
Chrysene	HAP	500	hr/yr	1.08E-07	lb/hr	1.08E-07	5
Dibenzo(a,h)anthracene	HAP	500	hr/yr	1.79E-07	lb/hr	1.79E-07	5
Fluoranthene	HAP	500	hr/yr	2.34E-06	lb/hr	2.34E-06	5
Fluorene	HAP	500	hr/yr	8.97E-06	lb/hr	8.97E-06	5
Formaldehyde	TAP & HAP	500	hr/yr	3.62E-04	lb/hr	3.62E-04	5
Indeno(1,2,3-c,d)pyrene	HAP	500	hr/yr	1.15E-07	lb/hr	1.15E-07	5
Naphthalene	TAP & HAP	500	hr/yr	2.60E-05	lb/hr	2.60E-05	5
Phenanthrene	HAP	500	hr/yr	9.03E-06	lb/hr	9.03E-06	5
Pyrene	HAP	500	hr/yr	1.47E-06	lb/hr	1.47E-06	5
Toluene	TAP & HAP	500	hr/yr	1.26E-04	lb/hr	1.26E-04	5
Xylenes	TAP & HAP	500	hr/yr	8.75E-05	lb/hr	8.75E-05	5
Total TAPs						23.699	
Total HAPs						23.699	

C-5

Notes for Tables C-2 and C-3:

1. Current year throughput is calculated by multiplying 1999 data by the ratio of current production to production for 1999, which was 151,607 MBF.
2. Hourly rates estimated per PTC Applicability Determination P-940222, May, 1995. Calculation: $\{[(\text{lb/hr})(\text{hr/yr})/2,000 \text{ lb/ton}](\text{emission factor})\} / 2,000 \text{ lb/ton}$.
3. Manufacturer's guarantee $(\text{gr/cf} \times \text{fan output (cfm)}) \times \text{lb/gr}$.
4. Information from glue manufacturer (MSDS)
5. Assumes 100% Hemlock (PM10) and 100% Douglas Fir (VOCs), using emission factors from Oregon Department of Environmental Quality Emission Factors for Wood Products (AQ-EF02, June 26, 2003). See Section 3.1 for kiln throughputs of each species.
6. AP-42 Table 3.3-1 (10/96): Diesel Fuel (assumed PM = PM-10)
7. AP-42 Table 3.3-1 (10/96): Diesel Fuel
8. AP-42 Table 3.3-1 (10/96): Diesel Fuel (exhaust TOC)
9. Formaldehyde and methanol emission factors from OSU Forest Products Study, September 2000.
10. Phenol emission factor is provided by ORCAA, and is based on Cowlitz Stud Co. Study.
11. Acetaldehyde and MEK emission factors from Table D4, June 9, 2000 letter to Mary Tom Kissell (EPA) from Katie Hanks, MRI.
12. Throughput calculated from highest recorded hog volume from May 2005 to Feb 2007, $4900 \text{ lb/hr} \times 52 \text{ wk/yr} \times 5 \text{ dy/wk} \times 8 \text{ hr/dy} / 2000 \text{ lb/ton}$.
13. AP-42 Table 3.3-2 (10/96): Diesel Fuel
14. AP-42 Table 1.4-2 (07/98): Natural Gas Combustion
15. AP-42 Table 3.2-1 (08/00): Natural Gas Engines